

What is claimed is:

1 1. An apparatus for generating electrical energy
2 comprising,
3 an elongated conduit having a central bore adapted to
4 receive a magnetic element for passage therethrough,
5 a plurality of wire coils wound about said conduit and
6 spaced along the length thereof,
7 a magnetic element sized to pass through said bore, and
8 means to propel said magnetic element through said
9 bore,

10 whereby passage of said magnetic element through said
11 bore induces an electrical current in said coils.

1 2. The apparatus of claim 1 further comprising an
2 electrical storage means electrically connected to said coils and
3 capable of receiving and storing current induced in said coils.

1 3. The apparatus of claim 2 wherein said conduit
2 comprises a tube of non-magnetic and non-conductive material.

1 4. The apparatus of claim 3 wherein said magnetic
2 element comprises a rare earth magnet.

1 5. The apparatus of claim 4 wherein said means to
2 propel said magnetic element comprises an explosive propellant
3 discharged into said bore.

1 6. The apparatus of claim 3 wherein said conduit is
2 straight and has a first end and a second end.

1 7. The apparatus of claim 6 further comprising a
2 receiver attached to said first end of said conduit and

3 communicating with said bore, a loading means cooperating with
4 said receiver and a firing means cooperating with said receiver
5 and said loading means, said receiver adapted to receive an
6 explosive propellant cartridge and said magnetic element from
7 said loading means and said firing means adapted to discharge
8 said cartridge whereby said magnetic element is propelled through
9 said bore.

1 8. The apparatus of claim 7 further comprising a
2 capture means attached to said second end of said conduit and
3 communicating with said bore whereby said magnetic element is
4 slowed and captured.

1 9. The apparatus of claim 3 wherein said conduit is
2 curved so as to describe a circle having sufficient diameter to
3 permit said magnetic element to freely traverse said bore, said
4 conduit having a gas inlet and a gas outlet and said magnetic
5 element being confined therein.

1 10. The apparatus of claim 9 further comprising means
2 to inject a propellant gas into said conduit through said gas
3 inlet, said propellant gas being pressurized whereby said
4 magnetic element is propelled within said conduit.

1 11. The apparatus of claim 9 further comprising a
2 combustion chamber connected to said conduit through said gas
3 inlet, a supply of combustible propellant, means to charge a
4 quantity of said propellant into said combustion chamber and
5 means to ignite said propellant, whereby combustion gas is
6 directed through said gas inlet into said conduit whereby said

7 magnetic element is propelled within said conduit.

1 12. A method of generating electricity from high
2 pressure combustion gases comprising,
3 providing a plurality of field coils in substantially
4 linear arrangement on a barrel having a central bore
5 therethrough,
6 providing a magnetic armature sized to pass through
7 said bore,
8 providing a means to propel said armature through said
9 bore comprising a ballistic propellant capable of generating high
10 pressure combustion gases directed against said armature in a
11 direction corresponding to said linear arrangement of said field
12 coils, and

13 propelling said magnetic armature through said bore
14 whereby the magnetic field of said armature passing across said
15 field coils induces electrical current in said coils.

1 13. A method of generating electricity comprising
2 propelling a magnetic pellet through at least one stationary
3 tubular field coil.

1 14. The method of claim 13 comprising propelling said
2 magnetic pellet by means of high pressure combustion gas.

1 15. The method of claim 14 wherein said combustion gas
2 is obtained from a charge of explosive propellant.

1 16. The method of claim 15 wherein said propellant is
2 an ignitable powder, liquid or gas.